

## ThermaSmart® Marine 2.0 Black Tube

Thermal Insulation by Thermaflex®

Thermal halogen free tube insulation product made of direct extruded, closed-cell high quality Thermoplastic-Elastomeric foam with aluminum black foil

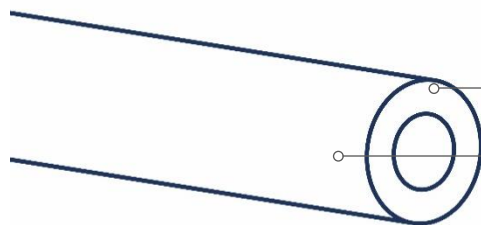


### Benefits

- Consistent performance with aluminum vapor barrier
- Excellent fire rating
- High emission factor
- Halogen Free product

### Applications

- Airconditioning, cooling and refrigeration
- Indoor and outdoor installation – UV protective layer
- Pipe systems, chillers, fan & coils, air handlers and tanks



#### Design

**Thermoplastic-Elastomeric foam**  
Robust & high quality insulation

**Aluminum black foil**  
Vapor barrier & mechanical strength



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#### Disclaimer

All recommendations and information provided on this data sheet are based on our knowledge and experience. Product specifications are intended as guidelines. Since conditions of service are beyond our control, users must satisfy themselves that products are suitable for the intended use. No guarantee or warranty is given or implied or that any use of products will not infringe rights belonging to other parties. We reserve the right to change product design and properties without notification.





## Technical Properties

Properties	Units SI	Values	Testing method
<b>Physical properties</b>			
Dimensional tolerances	-	Coherent	EN 14313
Density (foam)	kg/m <sup>3</sup>	≤ 45	-
Foam structure	-	Fine, closed cells	-
Color	-	Foam: dark grey Aluminum layer: black	-
<b>Thermal properties</b>			
Service temperature range	°C	-80 to +95	EN 14706
Maximum service temperature	°C	+95	EN 14707
Thermal conductivity (λ)	W/m.K	0.038 @ 40°C	EN 12664
<b>Fire properties</b>			
Fire rating	-	Pass Pass	IMO 2010 FTP Code Annex 1 Part 5 Part 2 (not required)
Approvals	-	-	Lloyds Register, Bureau Veritas, DNV-GL, Rina
<b>Water resistance properties</b>			
Water vapor diffusion (foam)	μ	> 10.000	
Water vapor diffusion (assembly)	μ	>23,000 (13mm) >19,000 (19mm) >16,000 (25mm) >14,000 (30mm)	
Water absorption	kg/m <sup>2</sup>	0.05	EN 1609

## Availability

- Standard product length is 1m (96-102cm) in carton boxes (105x60x40cm)

		Insulation Wall Thickness [mm]			
		13	19	25	30
Service Pipe Ø max. [mm]	Tube Insulation Ø [mm]	Item code			
10	11.0-12.5	3005-013010-208			
12	13.0-14.5	3005-013012-208	3005-019012-208	3005-025012-208	3005-030012-208
15-16	16.0-17.5	3005-013015-208	3005-019015-208	3005-025015-208	3005-030015-208
18	19.0-20.5	3005-013018-208	3005-019018-208	3005-025018-208	3005-030018-208
20	21.0-22.5	3005-013020-208	3005-019020-208	3005-025020-208	3005-030020-208
22	23.0-24.5	3005-013022-208	3005-019022-208	3005-025022-208	3005-030022-208
25-27	26.0-27.5	3005-013025-208	3005-019025-208	3005-025025-208	3005-030025-208
28-30	29.0-30.5	3005-013028-208	3005-019028-208	3005-025028-208	3005-030028-208
32	33.0-35.0	3005-013032-208	3005-019032-208	3005-025032-208	3005-030032-208
35-38	36.0-38.0	3005-013035-208	3005-019035-208	3005-025035-208	3005-030035-208
40	42.0-43.5	3005-013040-208	3005-019040-208	3005-025040-208	3005-030040-208
42	44.0-46.0	3005-013042-208	3005-019042-208	3005-025042-208	3005-030042-208



48	50.0-52.0	3005-013048-208	3005-019048-208	3005-025048-208	3005-030048-208
50-51	52.0-54.0	3005-013050-208	3005-019050-208	3005-025050-208	3005-030050-208
54	56.0-58.0	3005-013054-208	3005-019054-208	3005-025054-208	3005-030054-208
60	62.0-64.0	3005-013060-208	3005-019060-208	3005-025060-208	3005-030060-208
63-64	65.0-67.5	3005-013063-208	3005-019063-208	3005-025063-208	3005-030063-208
70	72.0-74.0	3005-013070-208	3005-019070-208	3005-025070-208	3005-030070-208
75-76	77.0-79.5	3005-013076-208	3005-019076-208	3005-025076-208	3005-030076-208
80	82.0-84.0	3005-013080-208	3005-019080-208	3005-025080-208	3005-030080-208
89-90	91.5-94.5	3005-013089-208	3005-019089-208	3005-025089-208	3005-030089-208
102	105.0-108.0	3005-013102-208	3005-019102-208	3005-025102-208	3005-030102-208
108-110	111.5-114.0	3005-013108-208	3005-019108-208	3005-025108-208	3005-030108-208
114	117.0-120.0	3005-013114-208	3005-019114-208	3005-025114-208	3005-030114-208

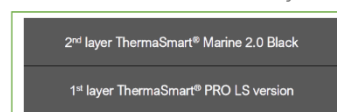
Above 30 till 50 mm multi-layer application

## Application thickness 50 mm

For insulation thicknesses above 30 mm the product will be delivered in two layers

- Applications may require larger thickness which can and should be done in 2 layers:

1<sup>st</sup> layer ThermaSmart® PRO LS version  
2<sup>nd</sup> layer ThermaSmart® Marine 2.0 Black



- Combinations of all wall thicknesses from the range can be used for this with the remark that the total wall thickness doesn't exceed the maximum allowed 50 mm
- After installing the 2<sup>nd</sup> layer of ThermaSmart® Marine 2.0 Black, all seams longitudinally as well as front side connections must be covered with self-adhesive ThermaSmart® Marine 2.0 Black Tape with a minimum width of 50 mm

Table for multi-layer sets

Service Pipe Ø max. [mm]	Tube Insulation Ø [mm]	Insulation Wall Thickness	
		38mm	45mm
12	13.0-14.5	3005-038012-208	
15-16	16.0-17.5	3005-038015-208	
18	19.0-20.5	3005-038018-208	3005-045018-208
22	23.0-24.5	3005-038022-208	3005-045022-208
25-27	26.0-27.5	3005-038025-208	3005-045025-208
28-30	29.0-30.5	3005-038028-208	3005-045028-208
32	33.0-35.0	3005-038032-208	3005-045032-208
35	36.0-38.0	3005-038035-208	3005-045035-208
42	44.0-46.0	3005-038042-208	3005-045042-208
48	50.0-52.0	3005-038048-208	3005-045048-208
54	56.0-58.0	3005-038054-208	3005-045054-208
60	62.0-64.0	3005-038060-208	3005-045060-208



63-64	65.0-67.5	3000-025063-300*	3000-030063-300*	*Per 1 meter ThermaSmart LS tube 0,4 M2 ThermaSmart Marine 2.0 Black Sheet 1/2" needed, not included in the price
70	72.0-74.0	3000-025070-300*	3000-030070-300*	*Per 1 meter ThermaSmart LS tube 0,5 M2 ThermaSmart Marine 2.0 Black Sheet 1/2" needed, not included in the price
75-76	77.0-79.5	3000-025076-300*	3000-030076-300*	*Per 1 meter ThermaSmart LS tube 0,5 M2 ThermaSmart Marine 2.0 Black Sheet 1/2" needed, not included in the price
80	82.0-84.0	3000-025080-300*	3000-030080-300*	*Per 1 meter ThermaSmart LS tube 0,5 M2 ThermaSmart Marine 2.0 Black Sheet 1/2" needed, not included in the price
89-90	91.5-94.5	3000-025089-300*	3000-030089-300*	*Per 1 meter ThermaSmart LS tube 0,5 M2 ThermaSmart Marine 2.0 Black Sheet 1/2" needed, not included in the price
102	105.0-108.0	3000-025102-300*	3000-030102-300*	*Per 1 meter ThermaSmart LS tube 0,6 M2 ThermaSmart Marine 2.0 Black Sheet 1/2" needed, not included in the price
114	117.0-120.0	3000-025114-300*	3000-030114-300*	*Per 1 meter ThermaSmart LS tube 0,6 M2 ThermaSmart Marine 2.0 Black Sheet 1/2" needed, not included in the price

\* ThermaSmart LS Tube (HF) - 2nd layer ThermaSmart Marine 2.0 Black Sheet 13 mm needs to be ordered separate